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=> d his

        FILE 'HCAPLUS' ENTERED AT 07:46:27 ON 03 JUN 2004
   L1           1 S US20030232886/PN

        FILE 'REGISTRY' ENTERED AT 07:46:58 ON 03 JUN 2004

        FILE 'HCAPLUS' ENTERED AT 07:47:01 ON 03 JUN 2004
   L2           TRA L1 1- RN :        32 TERMS

        FILE 'REGISTRY' ENTERED AT 07:47:01 ON 03 JUN 2004
   L3          32 SEA L2
   L4             STR
   L5             SCR 1839 AND 1992 AND 1599
   L6             SCR 2043 OR 2039 OR 2050 OR 2049 OR 2048 OR 2053 OR 2052 OR 205
   L7  (     760)SEA FILE=REGISTRY SSS FUL L4 AND L5 NOT L6
   L8             STR
   L9          10 SEA FILE=REGISTRY SUB=L7 SSS FUL L8
   L10            STR
   L11            SCR 1839 AND 1992 AND 1599
   L12            SCR 2043 OR 2039 OR 2050 OR 2049 OR 2048 OR 2053 OR 2052 OR 205
   L13        760 SEA FILE=REGISTRY SSS FUL L10 AND L11 NOT L12
   L14          6 L13 AND L3

        FILE 'HCAPLUS' ENTERED AT 07:48:38 ON 03 JUN 2004
   L15          4 L9 OR L14
                E OIKAWA M/AU
   L16         94 E3,E48
                E USHIO H/AU
   L17        126 E3,E8
                E KURIMOTO I/AU
   L18        109 E3,E6
                E HIGASHII T/AU
   L19         35 E3-4
   L20      26838 SUMITOMO CHEM?/CS,PA
   L21          3 L15 NOT L16-19

        FILE 'USPATFULL, USPAT2' ENTERED AT 07:52:32 ON 03 JUN 2004
   L22          4 L9 OR L14
                E OIKAWA M/AU
   L23          7 E3,E17
                E USHIO H/AU
   L24         19 E5
                E KURIMOTO I/AU
   L25         37 E5
                E HIGASHII T/AU
   L26         41 E4-5
   L27       4267 SUMITOMO CHEM?/CS,PA
   L28          0 L22 NOT L23-26

        FILE 'HCAOLD' ENTERED AT 07:54:20 ON 03 JUN 2004
   L29          0 L9 OR L14

        FILE 'HCAPLUS' ENTERED AT 07:54:33 ON 03 JUN 2004
                E MIYUKI O/AU
                E HIDEKI U/AU
                E ISAO K/AU
                E TAKAYUKI H/AU

        FILE 'USPATFULL, USPAT2' ENTERED AT 07:55:35 ON 03 JUN 2004
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check
R.N.
+ Broada
Do a Broad
search

Searched by Noble Jarrell 272-2556

          E MIYUKI O/AU
          E HIDEKI U/AU
          E ISAO K/AU
          E TAKAYUKI H/AU

        FILE 'BEILSTEIN' ENTERED AT 07:56:24 ON 03 JUN 2004
L30   0 L9 OR L14

=> b reg
FILE 'REGISTRY' ENTERED AT 08:14:32 ON 03 JUN 2004
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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provided by InfoChem.

STRUCTURE FILE UPDATES: 2 JUN 2004   HIGHEST RN 688737-01-1
DICTIONARY FILE UPDATES: 2 JUN 2004   HIGHEST RN 688737-01-1

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

   Please note that search-term pricing does apply when
   conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

=> d ide 114 tot

L14   ANSWER 1 OF 6   REGISTRY   COPYRIGHT 2004 ACS on STN
RN   323179-33-5   REGISTRY
CN   Benzenemethanamine, 2,4-dichloro-α-methyl-N-[(3-
       phenoxyphenyl)methylene]-, (αR)- (9CI)   (CA INDEX NAME)
FS   STEREOSEARCH
MF   C21 H17 Cl2 N O
SR   CA
LC   STN Files: CA, CAPLUS, CASREACT, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P   Roles from patents: PREP (Preparation); RACT (Reactant or reagent)

Absolute stereochemistry.
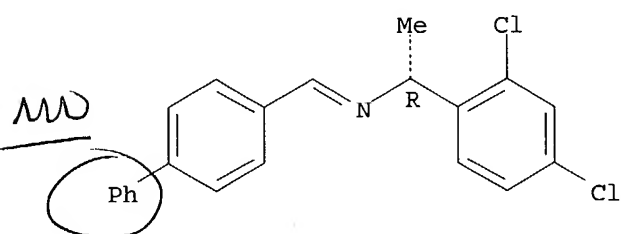Double bond geometry unknown.
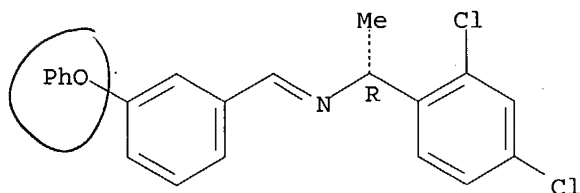
PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L14 ANSWER 2 OF 6 REGISTRY COPYRIGHT 2004 ACS on STN
RN   323179-32-4   REGISTRY
CN   Benzenemethanamine, N-([1,1'-biphenyl]-4-ylmethylene)-2,4-dichloro-α-
     methyl-, (αR)- (9CI) (CA INDEX NAME)
FS   STEREOSEARCH
MF   C21 H17 Cl2 N
SR   CA
LC   STN Files: CA, CAPLUS, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P   Roles from patents: PREP (Preparation); RACT (Reactant or reagent)

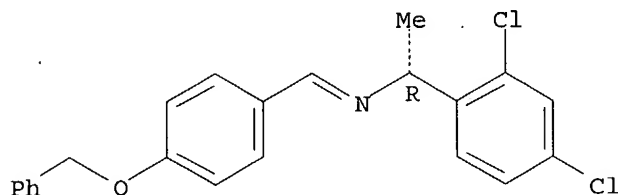Absolute stereochemistry.
Double bond geometry unknown.

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

2 REFERENCES IN FILE CA (1907 TO DATE)
2 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L14 ANSWER 3 OF 6 REGISTRY COPYRIGHT 2004 ACS on STN
RN   323179-31-3   REGISTRY
CN   Benzenemethanamine, 2,4-dichloro-α-methyl-N-[[4-
     (phenylmethoxy)phenyl]methylene]-, (αR)- (9CI) (CA INDEX NAME)
FS   STEREOSEARCH
MF   C22 H19 Cl2 N O
SR   CA
LC   STN Files: CA, CAPLUS, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P   Roles from patents: PREP (Preparation); RACT (Reactant or reagent)

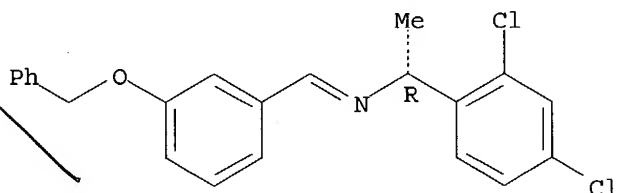Absolute stereochemistry.
Double bond geometry unknown.

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

1 REFERENCES IN FILE CA (1907 TO DATE)
1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

Searched by Noble Jarrell 272-2556

L14 ANSWER 4 OF 6 REGISTRY COPYRIGHT 2004 ACS on STN
RN   323179-30-2 REGISTRY
CN   Benzenemethanamine, 2,4-dichloro-α-methyl-N-[[3-
     (phenylmethoxy)phenyl]methylene]-, (αR)-(9CI) (CA INDEX NAME)
FS   STEREOSEARCH
MF   C22 H19 Cl2 N O
SR   CA
LC   STN Files: CA, CAPLUS, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)

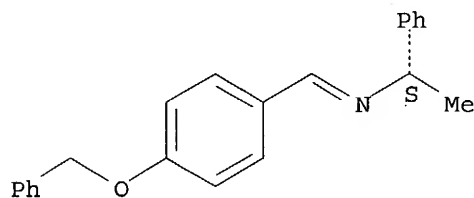Absolute stereochemistry.
Double bond geometry unknown.

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

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          1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L14 ANSWER 5 OF 6 REGISTRY COPYRIGHT 2004 ACS on STN
RN   323179-29-9 REGISTRY
CN   Benzenemethanamine, α-methyl-N-[[4-(phenylmethoxy)phenyl]methylene]-
     , (αS)-(9CI) (CA INDEX NAME)
FS   STEREOSEARCH
MF   C22 H21 N O
SR   CA
LC   STN Files: CA, CAPLUS, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)

Absolute stereochemistry.
Double bond geometry unknown.
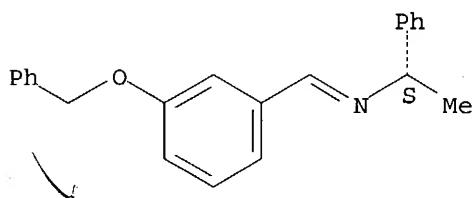

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

          1 REFERENCES IN FILE CA (1907 TO DATE)
          1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

L14 ANSWER 6 OF 6 REGISTRY COPYRIGHT 2004 ACS on STN

RN   **323179-28-8** REGISTRY
CN   Benzenemethanamine, α-methyl-N-[[3-(phenylmethoxy)phenyl]methylene]-
      , (αS)-(9CI) (CA INDEX NAME)
FS   STEREOSEARCH
MF   C22 H21 N O
SR   CA
LC   STN Files: CA, CAPLUS, USPAT2, USPATFULL
DT.CA CAplus document type: Patent
RL.P Roles from patents: PREP (Preparation); RACT (Reactant or reagent)

Absolute stereochemistry.
Double bond geometry unknown.

PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT

        1 REFERENCES IN FILE CA (1907 TO DATE)
        1 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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FILE 'HOME' ENTERED AT 08:14:49 ON 03 JUN 2004

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FILE 'REGISTRY' ENTERED AT 07:48:13 ON 03 JUN 2004
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provided by InfoChem.

STRUCTURE FILE UPDATES:    2 JUN 2004   HIGHEST RN 688737-01-1
DICTIONARY FILE UPDATES:   2 JUN 2004   HIGHEST RN 688737-01-1

TSCA INFORMATION NOW CURRENT THROUGH JANUARY 6, 2004

   Please note that search-term pricing does apply when
   conducting SmartSELECT searches.

Crossover limits have been increased.  See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html  .

=> d que stat 19
L4                STR
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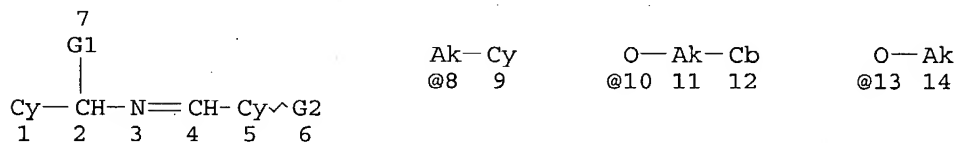
```
      7
      G1                      Ak— Cy         O— Ak— Cb         O— Ak
      |                       @8   9         @10  11  12       @13  14
Cy— CH— N══ CH- Cy⌣G2
 1   2   3   4   5   6
```

```
  O— Cy
  @15  16
```

```
VAR G1=AK/8
VAR G2=AK/CY/10/13/15
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
GGCAT    IS UNS   AT   1
GGCAT    IS UNS   AT   5
GGCAT    IS UNS   AT   9
GGCAT    IS UNS   AT   12
GGCAT    IS UNS   AT   16
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  16

STEREO ATTRIBUTES: NONE
L5               SCR 1839 AND 1992 AND 1599
L6               SCR 2043 OR 2039 OR 2050 OR 2049 OR 2048 OR 2053 OR 2052 O
R 2054 OR 1918
L7  (       760)SEA FILE=REGISTRY SSS FUL L4 AND L5 NOT L6
L8               STR
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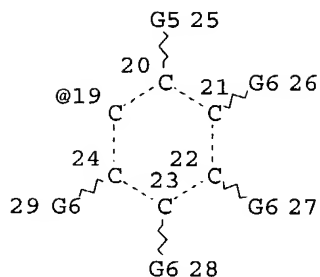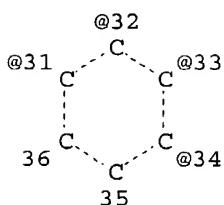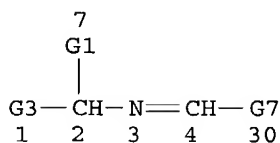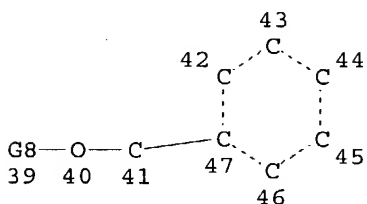
Cy⌇G9
@37 38

Ak—Cy   O—Ak   O—Cy   Cy⌇G4
@8   9   @13 14   @15 16   @17 18

```
          7
          G1
          |
G3— CH — N ═ CH — G7
1    2    3    4    30
```

```
          @32
           C
@31       / \\      @33
   C           C
   :           :
   C           C
  /     \\        \\  @34
36     C
       35
```

```
         G5 25
          \\
      20   {
       \\  C
@19    C    \\21 G6 26
    C          C
    :          :
24  C     22   C
29 G6  \\  C  /  G6 27
        23
        {
       G6 28
```

Page 1-A

```
          43
           C
42       / \\ 44
   C         C
   :         :
G8— O— C       C 45
39  40  41 C  / \\
        47  C
            46
```

Page 2-A
VAR G1=AK/8
VAR G3=CY/17/19
VAR G4=AK/NO2/X/13
VAR G5=X/AK
VAR G6=H/X/NO2/AK
VAR G7=31/37
VAR G8=32/33/34
VAR G9=AK/CY/13/15
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
GGCAT   IS UNS   AT   9
GGCAT   IS UNS   AT   16
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 42

STEREO ATTRIBUTES: NONE
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100.0% PROCESSED   62 ITERATIONS   10 ANSWERS
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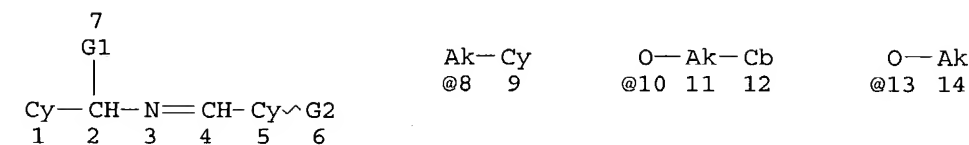
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L1   1 SEA FILE=HCAPLUS ABB=ON PLU=ON US20030232886/PN
L2   TRANSFER PLU=ON L1 1- RN :   32 TERMS
L3   32 SEA FILE=REGISTRY ABB=ON PLU=ON L2
L10   STR

```
       7
       G1
       |
Cy— CH— N══ CH- Cy⌒G2          Ak— Cy        O— Ak— Cb        O— Ak
1    2   3    4   5  6          @8  9         @10  11  12      @13  14


O— Cy
@15 16
```

```
VAR G1=AK/8
VAR G2=AK/CY/10/13/15
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
GGCAT    IS UNS  AT   1
GGCAT    IS UNS  AT   5
GGCAT    IS UNS  AT   9
GGCAT    IS UNS  AT  12
GGCAT    IS UNS  AT  16
DEFAULT ECLEVEL IS LIMITED


GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS  16


STEREO ATTRIBUTES: NONE
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L12            SCR 2043 OR 2039 OR 2050 OR 2049 OR 2048 OR 2053 OR 2052 O
R 2054 OR 1918
L13       760 SEA FILE=REGISTRY SSS FUL L10 AND L11 NOT L12
L14         6 SEA FILE=REGISTRY ABB=ON   PLU=ON   L13 AND L3

=> d his

     FILE 'HCAPLUS' ENTERED AT 07:46:27 ON 03 JUN 2004
L1             1 S US20030232886/PN

     FILE 'REGISTRY' ENTERED AT 07:46:58 ON 03 JUN 2004

     FILE 'HCAPLUS' ENTERED AT 07:47:01 ON 03 JUN 2004
L2             TRA L1 1- RN :        32 TERMS

     FILE 'REGISTRY' ENTERED AT 07:47:01 ON 03 JUN 2004
L3          32 SEA L2
L4             STR
L5             SCR 1839 AND 1992 AND 1599
L6             SCR 2043 OR 2039 OR 2050 OR 2049 OR 2048 OR 2053 OR 2052 OR 205
L7  (      760)SEA FILE=REGISTRY SSS FUL L4 AND L5 NOT L6
L8             STR
L9          10 SEA FILE=REGISTRY SUB=L7 SSS FUL L8
L10            STR
L11            SCR 1839 AND 1992 AND 1599
L12            SCR 2043 OR 2039 OR 2050 OR 2049 OR 2048 OR 2053 OR 2052 OR 205
L13        760 SEA FILE=REGISTRY SSS FUL L10 AND L11 NOT L12
L14          6 L13 AND L3

     FILE 'HCAPLUS' ENTERED AT 07:48:38 ON 03 JUN 2004
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L15              4 L9 OR L14
                   E OIKAWA M/AU
L16             94 E3,E48
                   E USHIO H/AU
L17            126 E3,E8
                   E KURIMOTO I/AU
L18            109 E3,E6
                   E HIGASHII T/AU
L19             35 E3-4
L20          26838 SUMITOMO CHEM?/CS,PA
L21              3 L15 NOT L16-19


     FILE 'USPATFULL, USPAT2' ENTERED AT 07:52:32 ON 03 JUN 2004
L22              4 L9 OR L14
                   E OIKAWA M/AU
L23              7 E3,E17
                   E USHIO H/AU
L24             19 E5
                   E KURIMOTO I/AU
L25             37 E5
                   E HIGASHII T/AU
L26             41 E4-5
L27           4267 SUMITOMO CHEM?/CS,PA
L28              0 L22 NOT L23-26


     FILE 'HCAOLD' ENTERED AT 07:54:20 ON 03 JUN 2004
L29              0 L9 OR L14


     FILE 'HCAPLUS' ENTERED AT 07:54:33 ON 03 JUN 2004
                   E MIYUKI O/AU
                   E HIDEKI U/AU
                   E ISAO K/AU
                   E TAKAYUKI H/AU


     FILE 'USPATFULL, USPAT2' ENTERED AT 07:55:35 ON 03 JUN 2004
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                   E HIDEKI U/AU
                   E ISAO K/AU
                   E TAKAYUKI H/AU


     FILE 'BEILSTEIN' ENTERED AT 07:56:24 ON 03 JUN 2004
L30              0 L9 OR L14

=> b hcap
FILE 'HCAPLUS' ENTERED AT 07:57:58 ON 03 JUN 2004
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FILE COVERS 1907 - 3 Jun 2004   VOL 140 ISS 23
FILE LAST UPDATED: 2 Jun 2004   (20040602/ED)

This file contains CAS Registry Numbers for easy and accurate
substance identification.

'OBI' IS DEFAULT SEARCH FIELD FOR 'HCAPLUS' FILE

=> d bib abs hitrn fhitstr l21 tot

L21   ANSWER 1 OF 3   HCAPLUS   COPYRIGHT 2004 ACS on STN
AN   2002:77457   HCAPLUS
DN   136:118261
TI   Preparation of dibenzylamines, their intermediate imines, and their use in
      optical resolution
IN   Oikawa, Ko; Tooi, Takayuki
PA   Sumitomo Chemical Co., Ltd., Japan
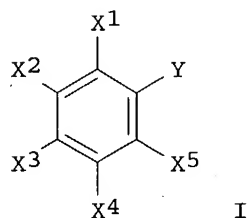SO   Jpn. Kokai Tokkyo Koho, 11 pp.
      CODEN: JKXXAF
DT   Patent
LA   Japanese
FAN.CNT 1
      PATENT NO.   KIND   DATE   APPLICATION NO.   DATE
      ---------------   ----   --------   ---------------   --------
PI   JP 2002030050   A2   20020129   JP 2000-218861   20000719
PRAI JP 2000-218861   20000719
OS   CASREACT 136:118261; MARPAT 136:118261
GI

AB   Racemic or optically active amines I (X1 = halo, lower alkyl; X2-X5 = H,
      halo, lower alkyl; Y = CHR1NHCH2R2; R1 = lower alkyl; R2 = alkyl-,
      alkoxy-, aryl-, or aryloxy-substituted aryl) or their salts are prepared by
      reaction of I (Y = CHR1NH2) with R2CHO (R2 = same as above) and reduction of I
      (Y = CHR1N:CHR2). (R)-2,4-dichloro-α-methylbenzylamine was treated
      with 4-phenylbenzaldehyde in tert-BuOMe at room temperature for 1 h and reduced
      by NaBH4 at room temperature for 16 h to give 72.9% (R)-N-(4-phenylbenzyl)-2,4-
      dichloro-α-methylbenzylamine, which was mixed with racemic
      3,3,3-trifluoro-2-hydroxy-2-methylpropionic acid to give diastereomer salt
      with 86% ee.
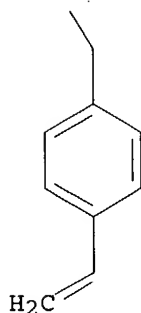IT   323179-32-4P 323179-33-5P
      RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic
      preparation); PREP (Preparation); RACT (Reactant or reagent)
         (preparation of dibenzylamines, their intermediate imines, and their use in
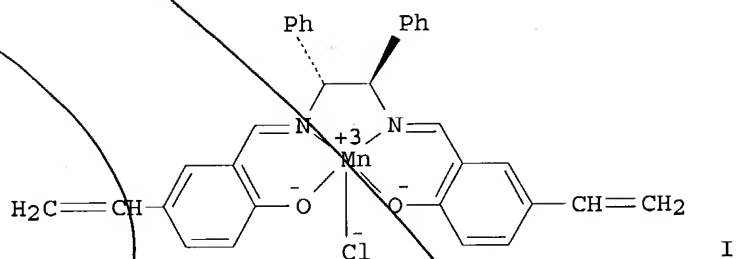   optical resolution)
IT   323179-32-4P
      RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic

PAGE 1-A
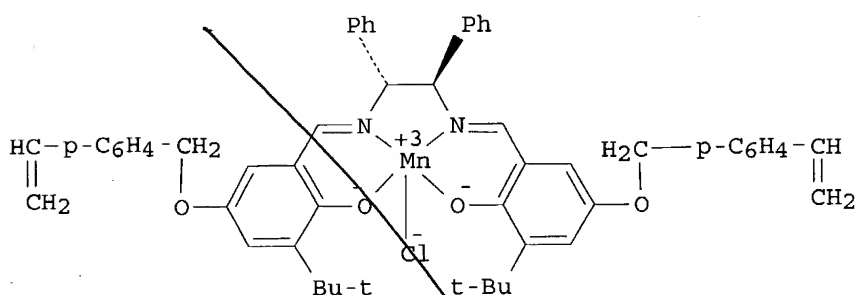

PAGE 1-B

RE.CNT 82   THERE ARE 82 CITED REFERENCES AVAILABLE FOR THIS RECORD
              ALL CITATIONS AVAILABLE IN THE RE FORMAT

L21   ANSWER 3 OF 3   HCAPLUS   COPYRIGHT 2004 ACS on STN
AN   1997:412205   HCAPLUS
DN   127:122047
TI   Polymeric catalysts for chemo- and enantioselective epoxidation of
      olefins: new crosslinked chiral transition metal complexing polymers
AU   De, Binod B.; Lohray, Braj B.; Sivaram, Swaminathan; Dhal, Pradeep K.
CS   Division Polymer Chemistry, National Chemical Laboratory, Pune, 411 008,
      India
SO   Journal of Polymer Science, Part A: Polymer Chemistry (1997), 35(9),
      1809-1818
      CODEN: JPACEC; ISSN: 0887-624X
PB   Wiley
DT   Journal
LA   English
GI

Ph   Ph

=N   +3   N=
      Mn

H₂C=CH— —O⁻   O⁻— —CH=CH₂

Cl⁻

I

Ph   Ph

=N   +3   N=
      Mn

HC–p–C₆H₄–CH₂   H₂C——p–C₆H₄–CH

CH₂   O⁻   O⁻   O   CH₂

Cl⁻

Bu-t   t-Bu

II

AB   Polymeric analogs of well-known chiral Mn(III)-salen complexes were
     synthesized and were used as recyclable catalysts for asym. epoxidn. of
     olefins. For this purpose two different monomers having the structures I
     and II were synthesized. These metal complexed chiral monomers were
     subsequently copolymd. with ethylene glycol dimethacrylate producing
     insol. crosslinked functional matrixes that possess macroporous morphol.
     Chemo- and enantioselective catalytic activities of these two polymers
     were evaluated for epoxidn. of olefins, i.e., styrene, trans-stilbene,
     dihydronaphthalene and indene. Both polymers catalyzed the epoxidn. of a
     variety of olefins at room temperature in the presence of iodosylbenzene as the
     terminal oxidant with yields comparable to the homogeneous system. In
     terms of their enantioselective catalytic activity, the polymer obtained
     from II performed better than the polymer obtained from I. Unfortunately,
     while homogeneous Mn(III)-salen catalyst systems are reported to offer
     over 80% enantioselectivity, with the present polymeric catalysts,
     enantioselectivity to a maximum of 30% was observed Unlike homogeneous
systems,
     use of an external nitrogenous donor played a very insignificant role in
     influencing enantioselectivity.
IT   192803-40-0P 192803-43-3P
     RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
     (Reactant or reagent)
        (ligand; in preparation of crosslinked chiral manganese complex polymeric
        catalysts for chemo- and enantioselective epoxidn. of olefins)
IT   192803-40-0P
     RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT
     (Reactant or reagent)
        (ligand; in preparation of crosslinked chiral manganese complex polymeric
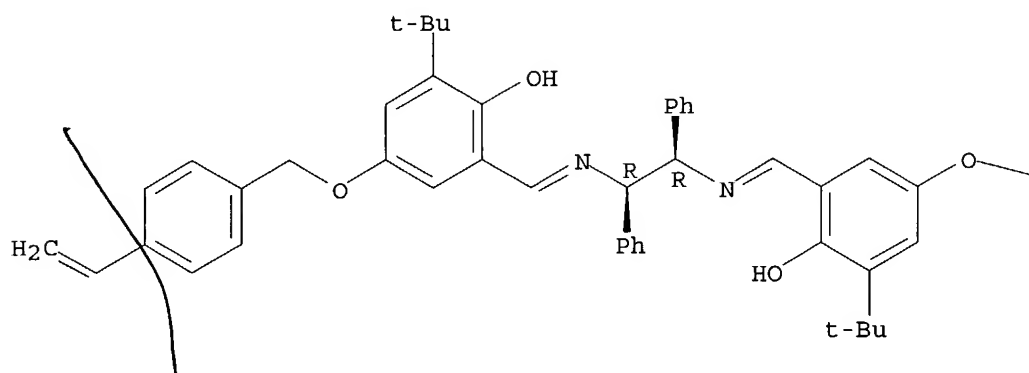   catalysts for chemo- and enantioselective epoxidn. of olefins)
RN   192803-40-0   HCAPLUS
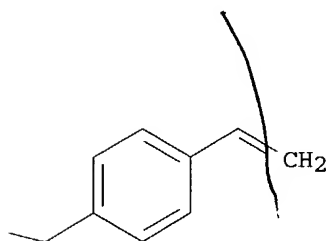CN   Phenol, 2,2'-[(1,2-diphenyl-1,2-ethanediyl)bis(nitrilomethylidyne)]bis[6-

(1,1-dimethylethyl)-4-[(4-ethenylphenyl)methoxy]-, [R-(R*,R*)]- (9CI)   (CA INDEX NAME)

Absolute stereochemistry.
Double bond geometry unknown.

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